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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/743,239 | 12/22/2003 | David Bruce Hall | 134081-1 | 6977 |

6147 7590 05/08/2006

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

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| EXAMINER |
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FORTUNA, ANA M

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| ART UNIT | PAPER NUMBER |
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1723

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,239

Applicant(s)

HALL ET AL.

Examiner

Ana M. Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-38 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8/12/0512/22/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 6, 7, 8, 9, 11, 12, 18, 19, 22, 23, 24, 25, 26, 27, 28, 34-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al (US 6,790,934). Limitations of claims 1, 22, 23, 31, 18, 34, 27, 35 are disclosed in patent '934, which teach the processing of aqueous medium containing guanidine compounds as catalyst in the purification of aromatic polyether (abstract column 2, lines 35-59, column 8, lines 24-43). The catalyst is extracted in water from a quenching step, and the water containing the catalyst or guanidine compound(s) is further treated with adsorbent, e.g. activated carbon, clay, to remove the catalyst from the aqueous system (column 18, lines 36-68, column 19 second paragraph; column 20, lines 1-30). The guanidine compounds corresponding to the formulas of claims 2-3, and compounds listed in claim 22 and 31, are listed in '934 (see column 8, lines 28-42). *As to claim 4, the process of '934 teaches removing both types of guanidine compounds or catalysts (see column 20, second paragraph, and column 21, lines 1-29).*

For claim 5, 16, 17, see '934 (column 33, table 23).

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For claims 6-8, and 23-25, 32-33, 34 see '934 (table 17, column 31, and 24, and column 20, second paragraph).

The absorbent as claimed in claims 9-10, 12, 13 are disclosed in '934 (see column 20, lines 8-52).

Regarding claims 19, 28,36, removal of organic and inorganic is also disclosed in '934, e.g. sodium, and PEG, see example 29 (column 32).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 15, 26, 20-21, 29-30, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (US 6,790,934) or Johnson et al in view of Caringi et al (US 6,235,934)(hereinafter Caringi).

5. Regarding claims 11, 20-21, 29-30, and 37-38, using the acids in the polyether production process generating the particular compounds, and further separation of the compounds from the process is not disclosed in '934. '934, however, teaches the use of phosphorous acid or carboxylic acids during quenching steps in aqueous medium, which is medium (containing the guanidine compound (catalyst) is treated by the adsorbent (column 9, lines 25-52). It Would have been obvious to one skilled in this art at the time the invention was made to select inorganic acids and/or organic acids within

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the families suggested in '934, in order to reach to a predetermined salt composition as residual product, which product can be expected by the ordinary skill in the art depending of the selected element of the family, e.g. sodium chloride, sodium phosphate, or sodium acetate are inherently formed in the process of '934. The pH condition of claims 7 and 26 is not disclosed in '934.

Caringi teaches producing hexasubstituted guanidinium compounds from washing aqueous solution from the preparation of polyether imides, the process includes diluting the salt and adjusting the pH to 2-2 by acidifying the aqueous phase (column 2, lines 35-68, see step G). Adjusting the pH at a value claimed in claims 11 and 26 does not seem to be critical to the process of recovering the guanidine (guanidinium or catalyst) from the process.

Regarding claim 15, the calcinations at the particular temperature is not disclosed in the references above. Reference to Johnson ('934) teaches removing components from the washing process (or aqueous solution from the extraction process, by water evaporation, and crystallization by the application of heat, column 17, second paragraph), a high temperature application depending on the volume of water to be reduced by evaporation it would have been obvious to one skilled in this art at the time the invention was made.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. The following is a statement of reasons for the indication of allowable subject matter: claim 1, as directed to the sole embodiment of nanofiltration, and including the limitations of claim 14 is allowable over the prior art of record. Separation of guanidine compounds by reverse osmosis is disclosed in 4,157,348. Nanofiltration is not suggested.

Conclusion

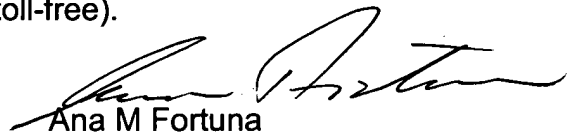
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,157,348 is cited as teaching recovering guanidine compounds by reverse osmosis. The use of adsorbents e.g. activated carbon, silica gel, molecular sieves, is disclosed as old in the art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M. Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should + Business Center (EBC) at 866-217-9197 (toll-free).



Ana M Fortuna
Primary Examiner
Art Unit 1723

AF
April 20, 2005